Daily Diary Report by Bid Item

Contract No.: **04-0120F4**
Diary #: **1238** **Const Calendar Day:** 811 **Date:** **24-Aug-2014** **Sunday**
Inspector Name: **Brignano, Bob** **Title:** **Transportation Engineer**
Inspection Type:
Shift Hours: **Break:** **Over Time:**
Federal ID:
Location:
Reviewer: **Schmitt, Alex** **Approved Date:** **Status:** Submit

04-0120F4
04-SF-80-13.2/13.9
Self-Anchored
Suspension Bridge

Weather

Temperature **7 AM** **12 PM** **4PM**
Precipitation **Condition** overcast am, clear pm

Working Day ☑ If no, explain:

Diary: Dispute ☐

General Comments

CCO 314, SAMPLING AND TESTING A354 GRADE BD MATERIAL:

The status of the 2 test rigs in this current phase of the Townsend Test (Test IV) is as follows:
Rod 18 (Dry 2008 Rod, ID S1-A7, Bottom): Tensioned to 0.55 Fu Today
Rod 19 (Dry 2008 Rod, ID S2-H6, Bottom): Tensioned to 0.55 Fu Today

ABF Engineer Kelvin Chen is not at work; no ABF engineer is present for today's work. ABF superintendent John Perine is not at work; no ABF superintendent is present for today's work. ABF's safety manager is not at work, but ABF safety staff Barry Rathman is available offsite and is on call for today's work in the event of any safety issues.

There is work in the field for the scheduled jacking step at TR's 18 & 19. There is no other work by ABF today on site, with work today specifically because of CCO 314. The jacking step is not scheduled to happen until after the morning break (which starts at 0900), so that the morning data reports can be produced and evaluated and to keep the load step durations consistent. Ironworker Foreman Jared Garret (temporary foreman for the day) and Ironworker Ricky Damboise start work at 0600 and are done after 1000 – by union agreement they are paid 6 hours after working 4 hours. Today is Sunday, so the work is paid at 2.0x OT – Double Time (DT).

VGO is on site today for the jacking step at TR's 18 & 19. From VGO, Dave Van Dyke starts work on site at ~0800. He works on the morning data reports before this morning's scheduled tensioning step. VGO is present for live data display during the jacking step at the test rigs. Then, VGO works on the data reports from the jacking step at the test rigs. VGO leaves the site ~1030. At the end of the day, VGO produces and sends the pm data reports while working offsite.

In the morning, prior to the jacking step, the ironworkers are working on other CCO operations not at the test rigs. The first task is to make one additional cut on the previously removed test rod from TR 16. For the post fracture analysis testing at an offsite lab, a ~6" long piece needs to be cut from the ~4' long piece that was removed from the test rod from the dead end. The plan was to use the table bandsaw in the Pier 7 warehouse, but ABF has some problems getting this equipment to work this morning. After first attempting to determine the cause of the electrical problem with this bandsaw, they instead use a portable bandsaw to make the cut. The portable bandsaw does not make a straight cut like the table bandsaw, but it is still fairly straight and serves the purpose.

The next operation is breaking down the Boltight load verification testing setup in the Caltrans storage area of the warehouse. This was setup for CCO 376, with that previous work being charged under that

CCO, but cleanup of the test setup is necessary at sometime, and it is done today and charged to CCO 314 while the ironworkers are waiting for the appropriate time to perform the tensioning step at TR's 18 & 19. The 3" diameter spare shear key upper rod and two standard nuts are returned to me for storage – previously provided 7/28/2014 to ABF for Boltight load verification testing. I do not take the two standard washers provided at the same time, because they were damaged (deflected/bent) and are no longer worth storing. One of the two spare PWS anchor rods, the two spherical nuts, and two spherical washers are returned to me for storage – previously provided 5/19/2014 to ABF for possible use in the jacking operations in the field but actually only used for the Boltight load verification testing. ABF still has one of the two spare PWS anchor rods, three jam nuts, and two couplers that will be returned in the future.

For the jacking step at the 2 test rigs, present from the DJV is Luis Funes. Present from CT-METS for AE is Elijah Turner (communicate with Mistras personnel offsite). Two ABF ironworkers are present to operate the hydraulic pump, tighten the nut, and deal with any issues that may come up during the jacking operation, with VGO present to monitor the loads being used to guide the operations.

Test Rig #18 (Dry 2008 Rod, ID S1-A7, Bottom) Jacking Step:
This is the 4th jacking step and the rod is being jacked to 0.55 Fu. The post-seating of the nut target is 459.690 +10/-0 kips. The expected hydraulic pressure at this locked off force is 3,300 psi. Based on the previous jacking step (8/22/2014 - 0.50 Fu), the expected seating loss is at least 32 kips (plus some expected bleed loss during AE check), so the initial jacking target is ~495~505 kips. The tension on the rod at the start of the operation is 417 kips (the 0.50 Fu load left on the rod 2 days ago was 421 kips for a delta of -4 kips, with this tension difference possibly due to thermal differences between 8/22/2014 and today). Jacking is started at 0924. At 3,300 psi hydraulic pressure per the dial gauge, the primary strain gauges give a force of 447 kips. The hydraulic pressure is increased to 3,700 psi and the primary strain gauges give a force of 485 kips. The hydraulic pressure is increased to 3,800 psi and the primary strain gauges give a force of 504 kips. The AE is checked with the ok given at 0927. The nut is tightened. Prior to bleeding off the jacks, the primary strain gauges give a force of 502 kips (bleed loss = 2 kips). After bleeding off the jacks, the primary strain gauges give a force of 465 kips (seating loss = 37 kips). The force is within the specified tolerance.

Test Rig #19 (Dry 2008 Rod, ID S2-H6, Bottom) Jacking Step:
This is the 4th jacking step and the rod is being jacked to 0.55 Fu. The post-seating of the nut target is 459.690 +10/-0 kips. The expected hydraulic pressure at this locked off force is 3,300 psi. Based on the previous jacking step (8/22/2014 - 0.50 Fu), the expected seating loss is at least 34 kips (plus some expected bleed loss during AE check), so the initial jacking target is ~495~505 kips. The tension on the rod at the start of the operation is 417 kips (the 0.50 Fu load left on the rod 2 days ago was 422 kips for a delta of -5 kips, with this tension difference possibly due to thermal differences between 8/22/2014 and today). Jacking is started at 0930. At 3,300 psi hydraulic pressure per the dial gauge, the primary strain gauges give a force of 445 kips. The hydraulic pressure is increased to 3,800 psi and the primary strain gauges give a force of 508 kips. Note that prior to reaching 3,800 psi, the pressure is accidentally dropped a few hundred psi before it is then raised again until it eventually reached 3,800 psi. The AE is checked with the ok given at 0933. The nut is tightened. Prior to bleeding off the jacks, the primary strain gauges give a force of 505 kips (bleed loss = 3 kips). After bleeding off the jacks, the primary strain gauges give a force of 468 kips (seating loss = 37 kips). The force is within the specified tolerance.

After the tensioning steps, the ironworkers place about a dozen sandbags to secure the tent tarps at the south end of the test rigs – the tent tarps that extend down to the top of the southern traffic plates sometimes moves a lot in the wind, potentially affecting the noise picked up by the AE and has the potential to come loose, so I request that it be better secured. This operation ends after 1000, and then the ironworkers need to return the forklift and Kubota cart to the warehouse, lock up the facilities opened for today's work (welding bay in the warehouse and mechanics shop west of the warehouse), with work ending well after 1000.

A 40kW generator – MQ Power 40 – ABF ID 002051 is used briefly for the jacking operations and is on idle/standby at the test rig work area the remainder of the day. A Hydraulic Pump for running the jacks is used briefly for the jacking operations and is on idle/standby at the test rig work area the remainder of the

day. One or two Kubota Carts are used by the ironworkers at different times. A Hyster 80 forklift (ABF ID 002306) is used by the ironworkers at various times.

Note that there is k-rail at this work area. All the remaining k-rail at the CCO 314 test rig site is State owned. There are 20 pieces of 10' bought k-rail. Of the 20 pieces, 16 are installed in test rigs and 4 are spare/extra k-rail that are set aside.

To elevate k-rail and sandbags, crane mats (built from 12x12's) and timber blocking (12x12's) are used. The crane mat and 12x12's quantities are as follows:
1 each 4'x20' crane mat (1 x 80 LF)
1 each 5'x19' crane mat (1 x 95 LF)
2 each 5'x20' crane mats (2 x 100 LF)
2 each 5'x16' crane mat (2 x 80 LF)
~64 LF additional 12x12's
Total 12x12's quantity = 599 LF ~ 600 LF

The agreed extra work with ABF is as follows:
Ironworker Foreman Jared Garrett - 6 hrs DT
Ironworker Ricky Damboise - 6 hrs DT
Hyster 80 Forklift - 0.5 hr OT
40 kW Generator - 0.5 hr OT
12x12 timber - 600 LF
See the attached Extra Work Order - Signed with ABF for CCO 314 work

CCO 376, PWS ANCHOR ROD ADJUSTMENT:

See the CCO 314 remark about work today to breakdown the Boltight load verification testing setup.

Returned today from ABF to CT are the following items loaned to ABF 5/19/2014:
Jacking Rods: One of the two remnant pieces from the PWS anchor rod extensions for use with the spare strands.
Nuts: Two spare spherical nuts from the PWS anchor rods.
Washers: Two uncoated spherical washers that were QA pieces not destructively tested.
ABF still has one of the two spare PWS anchor rods, three jam nuts, and two couplers that will be returned in the future.

Returned today from ABF to CT are the following items loaned to ABF 7/28/2014:
The 3" diameter spare shear key upper rod and two standard nuts.
I do not take the two standard washers provided at the same time, because they were damaged (deflected/bent) and are no longer worth storing.

INSPECTOR OT REMARK:

Office and Field 6 hours: I am at work 0600 and 1230 for the scheduled test rod tensioning step in the field and for other office work. ABF works in the field and I am in the field between 0600 and ~1000+. I am then in the office for various work related to A354 Grade BD bolts and rods, including reviewing the A354 Grade BD report for next week's 8/28/2014 TBPOC meeting – the DJV provided the report Friday night and is working on edits and requests comments as early as possible. ABF's shift is 0600 to 1030 (but paid 6 hours per union agreement), and my shift and OT hours are 0600 to 1230.